

HYDROGEN-BROADENED" LINEWIDTHS OF WATER FROM 1850 TO 3950 cm^{-1}

L. R. BROWN

To support remote sensing of the outer planets, absorption spectra of H_2O broadened by H_2 are being recorded at 0.012 cm^{-1} resolution using the McMath Fourier transform spectrometer located at Kitt Peak National Observatory / National Solar Observatory. Pressure-broadened linewidths at room temperature are being obtained with precisions of 2 to 5% for the strongest fundamental transitions between 1850 and 3950 cm^{-1} . These measurements will be presented, and rotational and vibrational dependencies will be discussed.

Address of Brown: Jet Propulsion Laboratory, California Institute of Technology, 4800 Oak Grove Dr., Pasadena, CA 91109, USA.

Part of the research reported in this paper was performed at the Jet Propulsion Laboratory, California Institute of Technology, under contract with the National Aeronautics and Space Administration.

Time required: 10 minutes

Session: 4